

Hypocalypeteae (26.01)

Genus: *Hypocalyptus* C.P. Thunberg

Phylogenetic Number: 26.01.

Tribe: Hypocalypeteae.

Species Studied—Species in Genus: 3 spp.—3 spp.

Fruit a legume; unilocular; $0.2\text{--}6.5 \times 0.4\text{--}1.4 \times 0.25$ cm; with persistent calyx; with calyx shorter than fruit; without orifice formed by curving of fruit or fruit segments; straight to curved (slightly); not plicate; not twisted; symmetrical or asymmetrical; linear, oblong, or obovate; when asymmetrical with both sutures nearly straight; not inflated or inflated; compressed or terete; with beak; short tapered at apex; apex aligned with longitudinal axis of fruit; tapered at base; base oblique with longitudinal axis of fruit; with the apex and base uniform in texture; coriaceous or chartaceous; seed chambers externally visible; with the raised seed chambers torulose. Fruit margin constricted or not constricted; slightly constricted along both margins; without sulcus; plain. Fruit wings absent. Fruit substipitate. Fruit with all layers dehiscing; splitting along sutures. Dehiscence of valves along both sutures; medial and up and down; passive. Replum invisible. Epicarp dull; reddish or blackish brown or brown, black, or yellow (pale); glabrous; eglandular; without spines; not smooth; with elevated features; reticulately veined; not tuberculate; not exfoliating; without cracks. Mesocarp thin; surface not veined; 1-layered; without balsamic vesicles; without fibers; solid; coriaceous. Endocarp dull; monochrome; tan; smooth; nonseptate; chartaceous; not exfoliating; remaining fused to mesocarp and epicarp; entire. Seeds 1–6; length parallel with fruit length; neither overlapping nor touching; in 1 series. Funiculus less than 0.5 mm long; of 1 length only; triangular; straight. Aril fleshy; cupshaped; covering less than 1/2 of seed; white.

Seed $3.4\text{--}8 \times 2\text{--}3 \times 1.3\text{--}3$ mm; not overgrown; not angular; asymmetrical; reniform (oblong) or ovate; compressed; with surface smooth; with (faintly) or without visible radicle and cotyledon lobes; without external groove between radicle and cotyledon lobes; without hilar sinus; without umbo on seed faces. Testa not adhering to endocarp; dull and glossy or dull; not modified by a bloom; colored; monochrome or mottled to streaked; with frequent mottles; with frequent streaks; black to brown (dark); with black (brownish)

overlay; glabrous; smooth; coriaceous. Fracture lines absent. Rim absent. Raphe visible or not visible; from hilum through lens to base of seed and terminating; not bifurcating; darker than testa; reddish brown or black; flush. Hilum partially concealed; concealed by aril; with faboid split; with the lips of the faboid split the same color as the rest of the hilum; larger than punctiform; 1 mm long; with straight outline; oblong; between cotyledon and radicle lobe or marginal according to radicle tip; recessed; not within corona, halo, or rim. Lens discernible or not discernible; less than 0.5 mm in length; with margins curved; circular (outline difficult to see); not in groove of raphe; adjacent to hilum; 1 mm from hilum; mounded; dissimilar color from testa; darker than testa; reddish brown or black; not within corona, halo, or rim. Endosperm thick; covering entire embryo; adnate to embryo. Cotyledons smooth; both outer faces convex; both the same thickness; both more or less of equal length; not folded; margin entire 180 degrees from base of radicle; similar at apex; not concealing radicle; entire over radicle; without lobes; with the interface division terminating at base of radicle; without margins recessed; yellow; inner face flat; glabrous around base of radicle. Embryonic axis deflexed; oblique to length of seed; without a joint evident between the radicle and the cotyledons. Radicle linear; deflexed and parallel to cotyledon width; centered between cotyledons; less than 1/2 length of cotyledons. Plumule rudimentary glabrous.

Distribution: South Africa (southern Cape Province).

Notes: Schutte and Wyk (1998a,b) carried out extensive cladistic analyses of the tribes Liparieae and Podalyrieae and related genera. They concluded that all genera of Liparieae, except *Hypocalyptus*, should be transferred to Podalyrieae and that a monotypic tribe should be created for *Hypocalyptus*. Dahlgren (1972) monographed *Hypocalyptus* and correctly noted the fruit variation. *Hypocalyptus coluteoides* (J.B.A.P. de M. de Lamarck) R.M.T. Dahlgren has an inflated legume like *Colutea* (16.05), while the other two species have linear to obovate legumes that are not inflated

Hypocalyptus: *H. sophoroides* (P.J. Bergius) H.E. Baillon (A–E). A, Fruits and valve ($\times 1.7$); B, seeds ($\times 5.5$); C–D, testa ($\times 50$, $\times 1000$); E, embryos ($\times 5$).

